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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,971	12/31/2003	Galen W. Kulp	C-2884	9671

7590 04/26/2007
Malcolm J. Chisholm, Jr.
P.O. Box 278
220 Main Street
Lee, MA 01238

EXAMINER

RHEE, JANE J

ART UNIT	PAPER NUMBER
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1745

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/749,971

Applicant(s)

KULP ET AL.

Examiner

Jane Rhee

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Rejections Repeated

1. The 35 U.S.C. 103(a) rejection of claims 1-5,7-9,11 unpatentable over Fuss in view of Reiser et al. has been repeated as previously made in office action 10/30/2006.

As to the new limitation, "the vacuum creates a pressure differential between the fuel at fuel inlet valve and the anode flow field is between about 31.5kPa and about 105.5kPa", applicant discloses in the specification that the differential pressure is the pressure between the pressure of the entering fuel and the anode flow field (page 11 lines 4-12), and since Fuss teaches the same range of vacuum pressure applied to the anode (col. 3 lines 5) as desired by the applicant and the fuel entering would be at atmospheric pressure which is 100kPa, Fuss discloses the pressure differential between the fuel at fuel inlet valve and the anode flow field is between about 31.5kPa and about 105.5kPa.

2. The 35 U.S.C. 103(a) rejection of claims 6,10 unpatentable over Fuss in view of Dufner et al. has been repeated as previously made in office action 10/30/2006.

Response to Arguments

5. Applicant's arguments filed 3/30/2007 have been fully considered but they are not persuasive.

In response to applicant's argument that Fuss fail to disclose applying a vacuum to the anode flow field, Fuss discloses applying a vacuum to the anode which comprises an anode flow field (see figure 1 number 22 and 14).

In response to applicant's argument that Fuss fail to disclose wherein the vacuum creates a pressure differential between the fuel at fuel inlet valve and the anode flow field is between about 31.5kPa and about 105.5kPa, Fuss teaches the same range of vacuum pressure applied to the anode (col. 3 lines 5) as desired by the applicant and the fuel entering would be at atmospheric pressure which is 100kPa, Fuss discloses the pressure differential between the fuel at fuel inlet valve and the anode flow field is between about 31.5kPa and about 105.5kPa.

In response to applicant's argument, that Fuss fail to disclose a vacuum as part of a start up procedure, first of all, applicant claims " a procedure for starting up a vacuum fuel cell system" which is intended use. It has been held that a recitation with respect to the manner in which the claimed particle is intended to be employed does not differentiate the claimed article from a prior art article satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987). Secondly, even if Fuss discloses the application of the vacuum after shut down, prior to starting up a fuel cell system the system is shut down and the vacuum is applied after shut down which is before start up.

In response to applicant's argument that Fuss lack any specific teaching that a vacuum is maintained during shut down of the fuel cell, Fuss teaches that the anode and cathode outlets are sealed and the inlets are attached to the vacuum pump, and that the vacuum is used to evacuate the anode and cathode, then the stack is cooled to sub freezing temperatures, then restarted after freezing by reconnected the inlet lines to

the fuel inlet and air inlet (col. 3 lines 36-45). Since, the anode outlet and cathode outlet were sealed, the vacuum is maintained within the anode and the cathode.

Declaration

The declaration filed on 3/30/2007 under 37 CFR 1.131 has been considered but is ineffective to overcome the Fuss (6358637) reference.

Applicant states that the seal to maintain a vacuum would require expenditure of energy and cost. Expenditure of energy and cost does not overcome the ability for the seal to maintain a vacuum. Fuss that the anode and cathode outlets are sealed and the inlets are attached to the vacuum pump, and that the vacuum is used to evacuate the anode and cathode, then the stack is cooled to sub freezing temperatures, then restarted after freezing by reconnected the inlet lines to the fuel inlet and air inlet (col. 3 lines 36-45). Since, the anode outlet and cathode outlet were sealed, the vacuum is maintained within the anode and the cathode.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 1745

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jane Rhee whose telephone number is 571-272-1499. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jane Rhee
April 21, 2007



TRACY DOVE
PRIMARY EXAMINER